the Sacred Congregation of Cardinals and Bishops, and by the Jesuit fathers and teachers.

Now, we ask Roman Catholic laymen, does the picture presented by the foregoing extracts hold out any inducement to yield to the claims of Rome's priesthood? Does not the present state of Rome, and of Italy, loudly protest against their pretensions? Will it be said that political causes have produced these results? That Austrian rule has paralyzed the intellect, and destroyed the energies of Italy? That might, indeed, account for the condition of northern Italy; but how can it apply to the Papal States? There, at least, for the last three centuries, Italians have held undisputed sway; not a single foreign Pontiff ever has filled the chair of St. Peter during that period. Will it be said that it is unfavourably situated? A country lying between two great seas, the very centre of civilized Europe; the resort of travellers from every other land, with a fertile soil, and the most favoured climate. Will it be said that its climate and soil are unfavourable to the growth of manly virtue, energy, and enterprise? All antiquity proclaims the contrary. To what, then, shall we ascribe its condition? We say that it is the natural result of that exclusive priestly control over education which is now sought to be forced upon this country: we say that the degradation produced by the slavery of the body is as nothing, compared to the degradation resulting from the slavery of the mind; that there can be no love of truth, where man is forbidden to inquire what is truth; that to prohibit the exercise of man's reason in the higher things relating to "righteousness, temperance, and judgment to come," is to leave him, in all things, to the uncontrolled dominion of the passions and appetites of his lower nature. The priests of Rome, the priests of Bramah, and the priests of Mahommed, all require the will of man, in spiritual matters, to be subjected, without inquiry and without proof, to their rule and governance; but God says, "Prove all things; hold fast that which is good." He does not require us to hold fast even that which is good, until we have first proved it; he does not demand our assent to the truths of the Gospel, unless that assent be grounded on and evidenced by reason. Shall we obey God or man? England, and England's Church, long since proclaimed the truth, that that faith is worthless which does not recommend itself to man's reason; that the same God who has given revelation has also endowed man with reason; and, therefore, to suffer it to be opposed to faith would be to make God a liar. Has England suffered by this appeal to reason? Is truth less regarded? Is justice less purely administered? Is morality more endangered? Is the social structure less firm? Has England's progress in arms, in arts, and sciences, been retarded? Does the contrast between her present condition, and that of Rome and Italy, afford no subject for deep and earnest thought to every unprejudiced mind? If history be something more than an old almanac—if she be, indeed, philosophy, teaching by examples—does she not teach us, by the example of every European nation, that a free Bible, and an unfettered education, are the only sure and solid foundations on which can rest social order, morality, and religion?

FARMING OPERATIONS FOR JANUARY.

(*Extracted from the Irish Farmer's Gazette.*)

Winter is far from being a season of inactivity with the farmer. It is during this season that he is engaged in turning to account the results of his labours throughout the rest of the year. His cattle, sheep, and other descriptions of stock are feeding on the roots and hay which he had provided for them, and the produce of his grain crops are being prepared for and taken to market. Besides this, there are certain preparatory operations to be performed, with a view to the coming labours of the spring. Stubble fields have to be ploughed for green crops, and grass fields for grain. We refer, of course, to the well-regulated farm. On too many farms we find that "the dead months" of the year are too truly so, not only as regards the processes of vegetation, but also in so far as the operations of the farm are concerned. The lands which had borne crops of grain during the preceding summer, are allowed to remain in the same state as they were at the removal of the crops, hardened by the rains and by the continued tramping of the cattle, for whose use no store of roots had been provided. We trust, however, that the day is not far distant when such ruinous and unskilful practices shall become unknown in our island, and when the great and important *trade of farming* will be thoroughly understood by all who are engaged in it.

Ploughing Stubbles.—Although we refer to this operation at the present time, it must not be inferred that it may be delayed until this month. This should commence at a much earlier period, say in November; but as these remarks may be read by parties who have not done so at the proper time, we introduce them here. The ploughing of the stubbles, where a proper rotation of crops is followed, is preparatory to the culture of the pulse crops—beans, peas, and vetches; and of the green crops—turnips, carrots, and mangel-wurzel. On soils suited for bean culture, the portion of land intended for this crop must be ploughed first, at which time farm manure is applied and ploughed down. By so doing, a great amount of labour is saved at a period when every dry hour is precious for getting the seed deposited, where, perhaps, the season might be entirely lost if the manure was not applied until the time of sowing. Land upon which peas or vetches are to be grown, ought also to be ploughed early, and may or may not be manured at this season; because the former is usually grown without much or any manure, and the latter being sown at intervals, may be manured afterwards. That part of the stubble land intended for potatoes and green crops, is next to be ploughed. The practice of manuring on the stubbles (previous to ploughing) for these crops, is followed by many farmers, and we believe that on strong soils it may be done with success, particularly where potatoes or carrots are to be grown; because in strong soils, naturally or artificially dry, the manure will not be carried away by the rains, which would be the case in light or open soils; and it is well known that potatoes are more liable to disease when planted among recently-made manure, than when planted on land which had been manured some time previously. For carrots, it is essentially necessary that the manure be ploughed in. There is one great advantage gained by ploughing in manure on lands suitable for so doing—namely, the preservation of those fertilizing parts of it which decompose and are lost, during its exposure in the yards and dung-heaps, but which are preserved in the soil.

All stubble ploughing ought to be deep, certainly not less than seven inches, and, if possible, ten inches. To turn over the latter-mentioned depth, it will be necessary to yoke three horses in the plough. Shallow ploughing is useless; and good after-crops can never be raised when this practice is followed.

The object of ploughing land for green crops at an early season is, chiefly the benefit derived from exposure of the soil to the action of the frost and air, and to keep the land dry, by affording the rain an easy bed to percolate through; in consequence of this, the land becomes much more easily worked afterwards, weeds and insects are partially destroyed, and altogether it is too important an operation to be delayed beyond the beginning of this month. Winter ploughing ought never be done when the land is in a wet state, or when snow is lying. If done when in this state the benefit of ploughing is lost, the land becomes like mortar, it retains the water, and hardens so as to render the after culture much more difficult.

Ploughing Leas.—All grass lands intended to be cropped with oats ought to be ploughed early this month, if not before, commencing with the older and tougher leas. By doing so at this time, a much better covering for the seed is obtained than if the ploughing was deferred to a later period. Exposure to frost and air is also, in this case, the means by which this result is obtained. The proper size of furrow for leas is from eight to nine inches wide, by five to six inches deep. In all winter ploughing, care must be taken that surface water is not allowed to lie on the land. This will scarcely be the case on thorough-drained lands; still it is as well to prevent the possibility of water lodging on the surface, by cutting small gripes in different parts across the head ridges, and through any hollows, so that any excess of surface water may be carried quickly off into the nearest drain or ditch.

Every farmer is aware that much time is lost in ploughing short ridges; and it is, therefore, a matter of some importance that, in laying off fields, these should be as long as the general size and arrangements of the farm will admit. The following table is interesting, as it shows the comparative amount of time lost in ploughing long and short ridges. We extract this table from "Stephens's Book of the Farm"—a work from which much useful practical information will be derived:—

Ridges.	Length of ridge.	Time taken to plough one Stat. acre.	Loss of time.	Gain of time.
		h. *m.*	*h.* *m.*	*h.* *m.*
No. 1	78 yds.	11 53	1 53	0 0
„ 2	86 „	12 16	2 16	0 0
„ 3	112 „	10 35	0 35	0 0
„ 4	118 „	9 31	0 0	0 29
„ 5	170 „	10 15	0 15	0 0

The standard of ploughing in this trial was taken at 4,840 square yards, or one statute acre in ten hours. This is one instance out of many which could be brought forward, as showing the necessity of paying attention to what may appear to be *trifles*, so that expenditure in time and labour may be saved.

Spade Husbandry.—It is evident that the foregoing directions for winter ploughing are only applicable to those who have a sufficient number of stout horses to do the work properly. This the small farmer does not possess; and, indeed, in the case of small farmers generally, the possession of a horse is a great evil. It induces him to scratch over his land, rather than to give it the necessary deep ploughing, because he has not the means of working it properly; and besides this, as the horse must be maintained some way or other, it is too often the case that this is done out of what ought to be used by the family. From inability to keep them in working order, we always find horses belonging to the smaller classes of farmers to be most wretched animals, unable to drag themselves along, much less to assist in cultivating the land in a proper manner. If a beast be required by a small farmer, we would prefer using a bullock; for he can be more easily kept than a horse, will do his work as efficiently, and, when not required, can be fattened and sold, whereas the old, worn-out horse is totally worthless. For the small farmer, however, the most efficient mode of culture is by means of the spade. This simple instrument can be used under all circumstances, costs nothing for its keep, and, when properly used, is a much more efficient one in the culture of the soil than the best-appointed plough. The great importance of spade husbandry, and its complete adaptation to the case of the small farmers of Ireland, are only now beginning to be fully recognized. In allotting the size of farms, we think that they ought to be either of such a size as can be conveniently cultivated under a proper rotation of crops, by means of the spade—say five Irish acres—or that they shall be sufficiently large to give at least one pair of stout horses ample employment. There should not be any medium; for such would only cause the occupier to keep one, or, perhaps, two worthless animals, and the cultivation of such farms can never be so perfect as those cultivated entirely by spade labour, or by proper draught horses.

Manure-making.—As the cattle are housed at this period of the year, the accumulation of manure is, of course, one point to which the attention of the farmer is directed. The site of the dung-pit ought to be as convenient as possible to the cow-houses and stables; and the best form is, when slightly concave or hollow, with a gentle slope to a certain point at one end. The bottom must be paved, and, if the dung-pit be large, there ought to be shallow centre and cross channels, so as to permit the liquid drainings to flow towards the latter point, at which a covered reservoir or tank, for receiving these drainings, will be constructed. If the subsoil be porous, the site of the dung-pit must be properly puddled with clay previous to being paved, otherwise the liquid will escape through the soil instead of being conveyed to the tank. The dung-pit ought to be enclosed by a wall, four or five feet high, having a gate at one end, in order to allow carts to pass in and out. Before any dung is put into the pit, the bottom ought to be covered with a layer of earth or bog-stuff, a foot or eighteen inches deep, and with weeds cut before seeding, potato haulms, or any other refuse; this will soon become a mass of rich manure. The different kinds of manure—the horse, cow, and pig dung—will then be laid equally over the whole surface, taking care that all be properly intermixed; and to facilitate this, planks should be laid in different directions, over the dung, so that there may not be any accumulation of one particular kind of manure in any one part more than in another. As the dung accumulates, a light layer of earth should be laid over all; and when this is regularly done, it will improve the quality of the heap, by preventing the escape of ammonia and other gases during the progress of fermentation, and also add to its bulk, becoming itself invaluable manure. During cold weather fermentation does not proceed so rapidly as it does at a later period of the season; still, as there is always more or less going on, it is as well to guard against loss. Sprinkling the surface occasionally with peat charcoal will also prevent undue fermentation and fix the ammonia, which will otherwise be constantly escaping. As the liquid accumulates in the tank, it may be taken out and poured over of the dung, which it will not only greatly enrich, but cause it also to decompose equally, and thus burning, or *fire fanging* as it is termed, will be prevented.

During frosty weather, the dung which has accumulated in the farm-yard ought to be carted out to the fields to which it is intended to be applied, and there made up into oblong heaps on the upper [illegible]. The reasons why this ought to be done are [illegible] manure can be more readily brought into a proper state of decomposition in the field than in the farm-yard by being turned, as shall be afterwards described, and next, because the getting in of the [illegible] can be more readily carried on when the manure-heap is in the field than if it was at some distance. This is a point, however, which we find but little attended to. The manure is allowed to lie in the farm-yard until required, and then it is either insufficiently rotted, or has become burned up, and much valuable time is lost in conveying it to the field where it is wanted. For certain crops—such as beans, potatoes, and carrots—fresh dung may be carried and spread at once before the stubbles are ploughed; but when intended for mangel-wurzel or turnips, it ought to be made into the oblong heaps we have mentioned. The manner of forming these heaps is as follows:—The intended site being fixed upon, let a layer of earth be laid down, of the breadth and length which it is intended to make the heap; or, if the land has been previously ploughed, let the bottom be levelled

and broken by the spade; on this let the dung be laid down, the carts, coming in at one end, depositing their loads, and passing off at the other end, and proceeding in this manner until the whole is finished. As both ends of the heap will be sloping, it will be necessary to make them up to the same height as the rest of the heap, by cutting the ends across at the required distance, and throwing the outer ends on top; when this is done, finish by putting a layer of earth all over the top. If it should happen that the whole heap cannot be finished at once, but that there are intervals between the different times when the dung is drawn out, then a layer of earth must be laid over the dung heap each time the drawing is finished. During the time that the dung is being drawn out, great care must be taken that it is spread equally and not allowed to lie in lumps, and that the heap is made up as neatly as possible. When dung is not drawn out until late in spring, say within a month or six weeks of its being required, then the carts must not be allowed to travel over the heap; but the manure ought to be made up loosely, so that its fermentation may be hastened, whereas, if the carts were drawn over it, this would be considerably retarded.

Compost-heaps.—The materials for making compost-heaps may be brought forward at any spare time throughout the year; but as this is closely allied to the subject of the preceding paragraph, we shall now refer to it. The best material for mixing with farm-yard manure is peat or bog-earth; old turf fences also answer well; but wherever bog-stuff can be got, advantage ought to be taken of it to form compost-heaps, and thus to increase the manure store. The proper proportions are two-thirds of bog-earth to one-third of farm-yard dung. Let the bottom of the heap be bog-earth; upon this put a layer of manure, then another of earth, and so on until the heap is four or five feet high, covering all with earth. In a short time the mass will begin to heat, and after it has done so it may be turned and the materials carefully mixed, finishing, as at first, with a layer of earth. By saturating the heap occasionally with liquid manure from the tank, its value will be greatly increased. If a heap of earth be laid down convenient to the houses, and all house-slops—such as soap-suds, &c—poured regularly over it, a mass of valuable manure will soon be obtained.

Liquid-manure Tanks.—On small farms a sufficiently large tank may be made of a tight butt, containing 150 gallons, or, if one be insufficient, two of these butts may be set close to each other. Let a hole be dug two and a half feet deeper than the depth of the cask, and at least 18 inches wider; the bottom of the hole must be laid with a layer of properly-prepared puddled clay, ten or twelve inches thick; upon this set the cask, and then have puddle closely rammed in around the sides; the upper edge of the cask will then be eighteen or twenty inches below the surface, a sufficient depth to allow room for a covered drain for conveying the urine into the tank from the gutter behind the cows. A rough but strong covering of wooden slabs being laid over the top of the cask, a tank will be constructed which will last for several years, and contain all the liquid manure likely to be preserved at one time on a small farm. In the case of more extensive establishments, especially where the system of house-feeding is closely followed, larger tanks will be required, the sides of which will be formed of brick or stones set in mortar, and joined with cement, and carefully puddled behind each course; the sole may be either pavement or bricks laid on puddle, and the best cover is an arch; the width of the tank should not exceed six feet, for, if much wider, the arched cover will be expensive. As a regular part of the homestead, a tank should never be omitted; for there is no part of the establishment which will repay the outlay sooner.

Some modes of using liquid manure have been already mentioned, such as its application to the manure in the yard and to compost-heaps; it may also be applied as a *watering* to grass, whether pasture or when cut for soiling, and also to land in preparation for green crops, and its effects in either of these modes are often truly surprising. The quantity to be given to each Irish acre may be from 1,500 to 2,300 gallons.

Liquid-manure carts have been constructed in the form of a square or oblong wooden cistern, mounted on wheels; but the simplest and cheapest cart for this purpose is a common oil-cask, containing 120 gallons, fixed on the shafts and wheels of an ordinary cart, and having a long box, perforated with holes, attached behind. The liquid is pumped out of the tank, and enters the cask by a bung-hole on the top, where there is also a funnel attached, and it flows into the trough behind, through a hole in the lower part of the back end of the cask; this hole is provided with a large spigot or a simple bung of wood. The more expensive watering-carts are furnished with an apparatus for regulating the discharge; but the simple wooden trough may be made to serve the same purpose, merely by closing up a few of the holes, should the discharge be considered too great; and when the contents of the cask is known, it is an easy matter apportioning the quantity to be given to an acre. The amount will be greater or less according to the speed of the horse, and this must be attended to; but if the horse be not pushed beyond his step, it will be found that very little difference will arise from this cause. On very small farms, where manual labour was the only means of cultivation, we have seen a small cask, mounted on a wheel-barrow frame, answering all the purposes required.

Grass Lands, intended for meadow, should be cleared early in the month of all stock, the top-dressing finished, and, when thoroughly dry, bush-harrowed, cleaned, and rolled; draining finished, and the land shut up to rest.

Irrigation.—Attend to the water-meadows, and clear away all obstructions of dead leaves, silt, and other deposits, so that the water may run freely and not remain stagnant on any part. Correct the levels when necessary; and, in case of severe frost, let the water run unchanged, which will prevent the young blade from being burned up; but if the weather continues mild, change the water every third day from quarter to quarter, if there be not sufficient to cover the entire breadth at the same time. The best guide is to let off the water as soon as a scum arises, which is a good indication that the land is saturated sufficiently for the time.

Fatting Stock.—As the cattle in the stalls progress, improve the quality of the food, by giving oil-cake, barley meal, and bruised oats. Those put up early, and in good condition, will soon be fit for the butcher, and should be sold off.

Fatting Wedders, whether in the sheds, or on the pastures, must not be allowed too much turnips, but should get a liberal supply of cake or meal, and good hay; turnips are cold and succulent, and, if much frosted, are injurious, causing diarrhœa and dropsical affections.

In-calf Cows, and Ewes with Lamb, should be treated so as to keep them in vigorous health, by giving moderate, yet sufficient quantities of roots and good hay, so as to avoid the extremes of being too fat or too thin. As they approach the period of casting their young, an additional quantity of succulent food should be given, yet cautiously, to promote the secretion of milk, and improve their condition.

Store Stock should not be stinted, but have a liberal supply of nourishing food, as well to keep them in fair condition as promote their growth. Keeping growing stock on short allowance, will be found the least economical in the end.

General Remarks.—When not otherwise engaged, this is a good season to employ men in removing old, useless, earthen fences; and if the materials are not required, for the purpose of forming compost-heaps, as directed, they may be spread over the adjoining fields, which will be improved by thus deepening the soil. It is astonishing the great extent of valuable land which is taken up in this country with these fences: they are absolutely of no use whatever—they harbour vermin, and prove an unmolested nursery of weeds, and they take up land for which rent must be paid. When a system of house-feeding is closely followed, there are no fences required except the boundary, which may be a ground hedge, taking up very little space. In the present times, when every foot of land must be made fully productive, these abominations must be done away with.

Dublin: Printed by WILLIAM S. PURDON, and EDWARD PURDON, at No. 23, Bachelor's Walk, parish of St. Mary, for the Publisher, WILLIAM CURRY, 9, Upper Sackville-street, Dublin.

Saturday, January, 17, 1852.